

Applicant : Jaap Herman Van't Hoff
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Attorney's Docket No.: 17042-004001

Amendments to the Drawings:

The attached replacement sheets of drawings replace all of the original drawing sheets. No changes have been made to any of the Figures. However, Figure 1 has been enlarged to show features thereof with greater clarity.

Attachments following last page of this Amendment:

Replacement Sheets (6 pages)

REMARKS

In Reply to the Office Action of October 27, 2006, Applicant amended claims 11 and 17, and canceled claims 15 and 16. No new matter is added via these amendments. Claims 11-14, and 17-26 are pending.

The drawings were objected to under 37 CFR 1.83(a). Applicant has included with this Reply replacement drawing sheets in compliance with 37 CFR 1.121(d). No amendments to the figures have been made, and therefore no new matter is added via the replacement sheets. Instead, replacement drawing sheet 1 shows an enlarged view of Fig. 1. Applicant submits that Fig. 1 clearly shows a device that includes a circumferential recess 22 that has a trapezoidal cross-sectional shape. The cross-sectional shape of recess 22 is contrasted with, for example, the rectangular shape of the recess in which sealing ring 20 is positioned. Two opposite sides of circumferential recess 22 are not parallel to one another. Applicant therefore requests the withdrawal of the objection to the drawings under 37 CFR 1.83(a).

The amendment filed August 8, 2006 was objected to under 35 U.S.C. § 132(a) for allegedly introducing new matter into the disclosure. The Examiner alleges that Applicant's example of support for the amendment in the originally filed application "is speculative at best" (Action at page 2). However, the replacement drawing sheets submitted concurrently with this Reply show (e.g., Fig. 1) a circumferential recess 22 having trapezoidal cross-sectional shape, with two opposite sides of the circumferential recess not parallel to one another. None of the figures in the amended drawing sheets has been changed, but an enlarged view of Fig. 1 has been submitted to more clearly show the shape of recess 22.

The drawings are part of the written disclosure of the Application, and provide clear support for the amendment filed on August 8, 2006, e.g., see MPEP 2163 § II.A.3(a), which states that:

An applicant may show possession of an invention by disclosure of drawings or structural chemical formulas that are sufficiently detailed to show that applicant was in possession of the claimed invention as a whole. See, e.g., *Vas-Cath*, 935 F.2d at 1565, 19 USPQ2d at 118 ("drawings alone may provide a 'written

description' of an invention as required by Sec. 112*"); *In re Wolfensperger*, 302 F.2d 950, 133 USPQ 537 (CCPA 1962) (the drawings of applicant's specification provided sufficient written descriptive support for the claim limitation at issue); *Autogiro Co. of America v. United States*, 384 F.2d 391, 398, 155 USPQ 697, 703 (Ct. Cl. 1967) ("In those instances where a visual representation can flesh out words, drawings may be used in the same manner and with the same limitations as the specification.")

Therefore, the amendment filed August 8, 2006 introduces no new matter in the disclosure, and Applicant requests withdrawal of the objection to the amendment under 35 U.S.C. § 132(a).

Claims 12 and 26 were rejected under 35 U.S.C. § 112, first paragraph, for allegedly failing to comply with the written description requirement. Claim 12 covers devices that include a "circumferential recess [that] has [a] trapezoidal cross-section." Claim 26 covers devices where "two opposite sides of the trapezoidal cross-section are not parallel to one another." The Examiner alleges that "the written specification fails to identify and discuss any structural features and/or criticality of the now claimed 'circumferential recess ... has a trapezoidal cross-section' as recited in claim 12 and 'wherein two opposite sides of the trapezoidal cross-section are not parallel to one another' as now recited in claim 26" (Action at page 4).

However, as discussed above, Applicant has concurrently submitted replacement drawing sheets which show an enlarged view of Fig. 1. The amended drawing sheets are part of the written disclosure of the Application, and show (see, e.g., Fig. 1) a circumferential recess 22 with a trapezoidal cross-sectional shape. Further, the amended drawing sheets show that circumferential recess 22 has opposite sides that are not parallel. Thus, the disclosure of the Application does in fact provide support for the subject matter of claims 12 and 26. Therefore, Applicants request withdrawal of the rejection of claims 12 and 26 under 35 U.S.C. § 112.

Claims 11, 13-15, 19-21, and 25 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Alfons (U.S. Patent No. 5,285,931, "Alfons"). Claims 12, 16, 17, and 26 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Alfons alone, or in view of Cruysberghs (U.S. Patent No. 5,368,207, "Cruysberghs"). Applicant does not concede that either of these rejections is correct. However, to expedite prosecution, Applicant amended

independent claim 11 to include certain features of claims 15 and 16. Claims 15 and 16 were canceled.

As amended, claim 11 covers pressure control devices that include a closing member that “comprises a plunger movable in axial direction of the cylinder so as to change the volume of the second chamber.” Alfons does not disclose or suggest devices that include a plunger. In fact, in connection with previously pending claim 16, the Examiner admitted that Alfons does not disclose a plunger (Action at page 8). However, the Examiner alleged that “[i]t would have been obvious at the time the invention was made ... to employ in Alfons a piston element, in place of the diaphragm element 9 ... as recognized by Cruysberghs ('207)” (Action at page 9).

Applicant traverses. In fact, one skilled in the art would not have been motivated to modify the disclosure of Alfons according to Cruysberghs for at least the following reasons. First, there is no disclosure or suggestion in either Alfons or Cruysberghs to use a plunger in place of Alfons' membrane. Alfons discloses a pressure capsule for a spray can that “offers the possibility of possibly making use of, either compressed air, or an inert gas as a means of propulsion for such spray can” (Alfons, col. 1, lines 11-14). Alfons' pressure capsule includes “a membrane 9 that bears a rod 10 to which the valve 7 is attached” (id., col. 3, lines 15-16). Membrane 9 moves in response to differences in pressure between chamber 5 and space 11 of Alfons' capsule, and the movement of membrane 9 controls the position of valve 7 (see, e.g., id., col. 4, lines 3-34). However, there is no disclosure or suggestion in Alfons that membrane 9 in any way inadequately performs the task of regulating valve 7, nor is there any disclosure or suggestion that a piston of the type disclosed by Cruysberghs would be more suitable for this task.

The Examiner appears to suggest (see Action at page 9) that Alfons' membrane 9 would be susceptible to rupture at high fluid pressure. But, there is no disclosure in Alfons relating to failure of membrane 9 at high pressures. In fact, Alfons states that “chamber 5 is intended to be filled with a fluid under a pressure which is equal or almost equal to the over pressure which is normally applied in a spray can 1” (Alfons, col. 3, lines 10-12). In other words, membrane 9 – which encloses a portion of chamber 5 – does not have to withstand the high fluid pressures of

chamber 4. Instead, the fluid in chamber 5 is at the same nominal pressure as the propellant in the spray can. Thus, there would have been no motivation to replace membrane 9 with a piston on account of the fluid pressures in Alfons' pressure capsule. Moreover, Applicant can simply find no disclosure or suggestion in Alfons that using a plunger of the type disclosed by Cruysberghs would be desirable. Thus, one of skill in the art at the time of the invention would not have been motivated to modify Alfons' pressure capsule according to Cruysberghs as the Examiner alleged.

Second, even if, for the sake of argument only, Alfons' pressure capsule was modified to include Cruysberghs' plunger 146, the resulting combination still would not provide the subject matter of amended claim 11. In particular, amended claim 11 requires "a circumferential recess in the valve." Cruysberghs' plunger 146 does not have such a recess. As shown in Fig. 8 of Cruysberghs, notch 144b does not form a circumferential recess because it does not extend around the circumference of rod 144. There is, in fact, no disclosure or suggestion in Cruysberghs that notch 144b forms the required circumferential recess in rod 144. Thus, even if Alfons' pressure capsule was modified according to Cruysberghs' disclosure, the resulting pressure capsule still would not provide the subject matter of amended claim 11.

Third, even if, for the sake of argument only, Alfons' pressure capsule was modified to include a plunger of the type disclosed by Cruysberghs, and even if, for the sake of argument only, Cruysberghs' plunger was modified to include a circumferential recess (which two conjectures Applicant does not concede), it is conceivable that it would not even be possible to combine Cruysbergh's plunger with Alfons' pressure capsule in the manner proposed by the Examiner. In particular, if notch 144b in Cruysbergh's plunger 146 was replaced with a circumferential recess, proper alignment of rod 144 and the circumferential recess with respect to groove 17 and sealing ring 18 in Alfons' pressure capsule may no longer be guaranteed.

Rod 144 would be sized to produce an interference fit with sealing ring 18 in Alfons' pressure capsule (see, for example, the interference fit between rod 144 and O-ring 142 in Fig. 8 of Cruysberghs). Cruysberghs discloses that "O-ring 142 seals against the egress of the pressurized gas contained in the chamber 140" (Cruysberghs, col. 10, lines 11-12). The sealing

action of O-ring 142 would not be possible without the interference fit between rod 144 and O-ring 142. In addition, because notch 144b does not extend circumferentially around rod 144, the interference fit between rod 144 and O-ring 142 ensures that rod 144 remains aligned with the longitudinal axis of the pressure capsule, even when notch 144b is positioned adjacent to O-ring 142.

However, if Cruysberghs' plunger 146 was introduced into Alfons' pressure capsule with a circumferential recess, there would no longer be an interference fit between rod 144 and sealing ring 18 when the circumferential recess was positioned in groove 17 of the pressure capsule. Therefore, plunger 146 would not be prevented from tilting with respect to the longitudinal axis of Alfons' pressure capsule. Instead, plunger 146 could tilt, and proper opening and closing of the aperture defined by groove 17 by plunger 146 could be impeded. Furthermore, due to tilting of plunger 146 with respect to the longitudinal axis of the pressure capsule, sealing ring 18 could be damaged as a result of the edges of the circumferential recess in rod 144 rubbing against the sealing ring. Thus, it is conceivable that significant complications would arise from modifying Cruysberghs' plunger to include a circumferential recess and then modifying Alfons' pressure capsule to include such a plunger. These complication could impair the functioning of Alfons' pressure capsule to the extent that the combination of Alfons and Cruysberghs would not even be possible. Thus, one of skill in the art would have found no motivation, in either Alfons or Cruysberghs, to combine these references as proposed by the Examiner.

In view of the above, Applicant submits that amended claim 11 is patentable over Alfons and Cruysberghs, alone or in combination. Accordingly, Applicant requests that the rejection of previously pending claim 11 under 35 U.S.C. § 102(b) – which has been rendered moot by Applicant's amendments – be withdrawn, and that amended claim 11 be allowed.

Claims 13-15, 19-21, and 25 depend from claim 11 and are allowable for at least the same reasons. Applicants also therefore request withdrawal of the rejections of these claims.

Claims 18 and 22-24 were rejected on the ground of nonstatutory obviousness-type double patenting as being allegedly unpatentable over claims 1-10 of van't Hoff (U.S. Patent No.

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6,616,017, "van't Hoff"). Applicant does not concede that the subject matter of claims 18 and 22-24 is covered by claims 1-10 of van't Hoff. However, to expedite prosecution, Applicant has concurrently submitted a terminal disclaimer in compliance with 37 CFR §§ 3.73(b) and 1.321(b). Therefore, Applicant requests withdrawal of the rejection of claims 18 and 22-24.

Applicant believes the application is currently in condition for allowance, which action is requested. Please apply any charges or credits to deposit account 06-1050, referencing Attorney Docket No. 17042-004001.

Respectfully submitted,

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1/29/07



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